

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-10 (canceled)

11. (Currently Amended) A binary single phase titanium-zirconium alloy suitable for the production of surgical implants, with a zirconium content of less than 25% by weight but more than 5% by weight, comprising 0.1% to 0.3% by weight of oxygen as a strength enhancing additive and not more than 1% by weight of other strength enhancing additives and technical impurities, the alloy being obtainable by a process involving the following steps:

- (i) hot forging said alloy at a temperature above alpha/beta phase transition; and
- (ii) rapidly cooling said alloy to obtain the single phase titanium-zirconium alloy.

wherein said alloy is subsequently cold processed and has a tensile strength of at least 769 MPa.

12. (Cancelled)

13. (Previously Presented) Titanium-zirconium alloy as claimed in claim 11, wherein the zirconium content is less than 19% by weight (corresponding to 11 atomic %) but more than 10% by weight (corresponding to 5.5 atomic %).

14. (Previously Presented) Titanium-zirconium alloy as claimed in claim 11, wherein the zirconium content is 14-15% by weight.

15. (Previously Presented) A device selected from the group consisting of implants in dental surgery, abutments and elements for suprastructures comprising the titanium-zirconium alloy of claim 11.

16. (Previously Presented) Process for production of the alloy of claim 11, wherein the forging process is carried out at temperatures above 850°C, the alloy is then cooled rapidly and subsequently cold worked.

17. (Previously Presented) A surgical implant comprising the titanium-zirconium alloy of claim 11.

18. (Previously Presented) An implants for dental surgery, abutments and elements for suprastructures as in Claim 17.

19. (Previously Presented) The titanium-zirconium alloy as in claim 11, wherein the alloy is hot forged and/or cold worked prior to processing into an implant.

20. (Previously Presented) A process for producing the titanium-zirconium alloy of claim 11 comprising:

- (a) forging the alloy in the range of alpha/beta phase transition at 770°C to 830°C;
- (b) cooling the alloy rapidly; and
- (c) cold working the alloy.

21. (Previously Presented) The titanium-zirconium alloy as in claim 11, comprising up to 0.5% by weight of hafnium as part of said technical impurities.